

E. F. Williams.

File Driver.

No. 1253.

Patented July 22 1839.

Fig. 1.

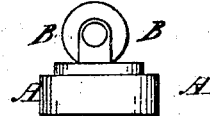
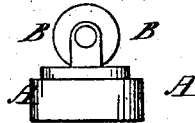
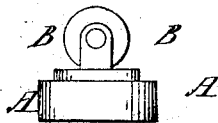


Fig. 2.

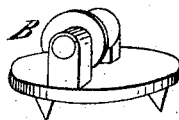
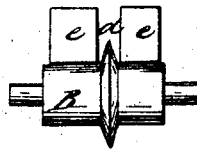


Fig. 3.



UNITED STATES PATENT OFFICE.

ELIJAH P. WILLIAMS, OF UTICA, NEW YORK.

MODE OF PROGRESSING WITH A PILE-DRIVING MACHINE BY THE AID OF SHIFTING WHEELS.

Specification of Letters Patent No. 1,253, dated July 22, 1839.

To all whom it may concern:

Be it known that I, ELIJAH P. WILLIAMS, of Utica, in the county of Oneida and State of New York, have invented a new and useful mode of progressing with a machine for driving piles for the construction of railroads, piers, locks, docks, or other structures containing a continuous row of piles; and I do hereby declare that the following is a full and exact description thereof.

The purpose of my invention is to enable me to give to the pile driving machine a progressive motion by causing it to be sustained by the piles themselves, without the aid of string pieces, or of cross ties, but simply by the aid of shifting wheels, revolving on suitable axles, and so constructed as that they may be shipped from the head of one pile to that of another, as the work advances; the pile driving machine having, on its under side, suitable rails, or ways, affixed along it, at such distance apart as that they may bear upon the above named wheels, and that the machine may be advanced thereon as the work proceeds. A grading saw, or saws, of any suitable kind, is to be employed to cut off the piles as the work proceeds, and then to prepare them for the reception of the shifting wheels.

It is not necessary to represent the pile machine, as I do not intend herein to claim any improvement in that part of the apparatus.

In the accompanying drawing Figure 1 represents a number of piles A, A, A, upon which the machine is to be supported, they having upon them the shifting wheels B, B. Fig. 2 shows one of these shifting wheels separate from the piles. This wheel runs on gudgeons sustained in the standards, or cheeks, *a, a*, attached to its bottom plate *b*; which plate is made flat on its under side, and has points, or spikes, *c, c*, projecting from it, which are to be driven into the top of the graded pile, to hold it in place; or spikes may be driven through holes made in the plate for that purpose. By means of this

device the driving machine may be advanced to any required distance, and the piles, also, may be driven at any desired distance apart from each other; thus affording an opportunity of varying their distances, when necessary for the avoiding of stumps, or from any other cause.

In driving piles for railroads I use two pile machines on the same carriage, corresponding with the distances for the rails; and the carriage as it advances is sustained by the shifting wheels on two rows of piles, the side flanches of the wheels serving as guides laterally; but when piles are to be driven in single rows, as for locks, docks, &c., while I proceed upon the same principle, I modify the shifting wheels and ways so as to adapt them to this purpose. I, in this case, usually make the shifting wheels with a projecting fillet, or flanch around their middles, and allow this to pass into a groove, or opening between two rails, or ways, as shown in Fig. 3, where B, is the shifting wheel, *d, d*, the flank, and *e, e*, a section of the rails; or there may be flanches at each end, embracing a single rail between them. The pile machine is, in this case, to be sustained by guy ropes.

What I claim as my invention, and desire to secure by Letters Patent, is—

The employment of the shifting wheels made and operating substantially in the manner described, for the purpose of sustaining and advancing a pile driving machine, without the use of cross, or other, ties, the piles being successively driven and cut off to the proper grade; for the purpose of grading I intend to use any kind of saw, or saws, which I may deem suitable, not intending to confine myself to any particular manner of constructing this part of the apparatus.

ELIJAH P. WILLIAMS.

Witnesses:

THOS. P. JONES,
JACOB KLEIBER.